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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,538	12/19/2003	David A. Petersen	2003P14535US	4649

7590 10/05/2007
Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

KHOLDEBARIN, IMAN K

ART UNIT	PAPER NUMBER
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3737

MAIL DATE	DELIVERY MODE
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10/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/741,538	Applicant(s) PETERSEN ET AL.	
	Examiner I Kenneth Kholdebarin	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/20/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/02/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed Feb 02, 2007 have been fully considered but they are not persuasive.

2. After further consideration of the applicant's argument, examiner respectfully disagrees. In regards to applicant's remarks on page 6, applicant argues that Wright et al. does not teach processing and converting within a transducer assembly.

Examiner would like to further clarify that Wright teaches, in col. 6 line 48-55,

"In FIG. 1a, the transmit beamformer is generally identified by T-50 with the transducer array T-52 containing a multiplicity of individual transducer elements T-54 organized as a linear phased array in this particular embodiment. As is known in the art, there are a great variety of transducer array configurations available for use with ultrasound transmit and receive beamformer systems.

As can be seen in FIG. 1a, the transmit beamformer T50 sends appropriately time-delayed electrical signals to the individual transducer elements T54. These transducer elements T-54 then in turn converts electrical signals into acoustic waves that propagate into the body tissue T-56."

Therefore, the examiner maintain previous rejection dated November 02, 2006 and repeated below, in addition claims 2-7 are dependent of claim 1.

3. In regards to applicant's remarks on page 6, applicant argues that Wright et al. does not teach processing device in the connector housing of the transducer assembly.

Examiner would like to further clarify that Wright teaches, in the abstract that,

"This invention presents a multi-beam baseband processor for making post-beamformation adjustments to the complex (in-phase/quadrature) pre-detection scan line samples acquired from a receive beamformer of an ultrasound imaging system."

Therefore, the examiner maintain previous rejection dated November 02, 2006 and repeated below, in addition claims 10-15 are dependent of claim 9.

4. In regards to applicant's remarks on page 7, applicant argues that Wright et al. does not teach processing within the detachable connector assembly.

Examiner would like to further clarify that Wright teaches, in the abstract that,

"The front end control C-134 sets the switches for the demultiplexer T-106 and the multiplexer R-108, interfaces with the transducer connectors T-110, and sets the gain and bias levels of all transmitter amplifiers T-123 and all receive amplifiers R-116."

Therefore, the examiner maintain previous rejection dated November 02, 2006 and repeated below, in addition claims 23-25 are dependent of claim 22.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al. (USPN 6029116).

Wright et al. teaches of a beam forming (figure 2a, A-400) ultrasound apparatus which comprises sub-apertures (Figures 10-13), phase shifts (column 20, lines 12-14), multiplexing/combining signals (Figure 2a, R-108), demultiplexer (Figure 2a, T-106), DAC (Figure 2c, T-121), signal mixing/apodization (column 4, line 44).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 9, 11-15, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (USPN 6029116) in view of official notice.

Wright et al. teaches of a beam forming (figure 2a, A-400) ultrasound apparatus which comprises sub-apertures (Figures 10-13), phase shifts (column 20, lines 12-14), multiplexing/combining signals (Figure 2a, R-108), demultiplexer (Figure 2a, T-106), DAC (Figure 2c, T-121), signal mixing/apodization (column 4, line 44). Wright et al. does not teach of a detachable cable.

The examiner takes official notice that it is well known in the art that ultrasound transducers are designed with detachable cables.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to combine the Wright et al. transducer assembly with the official notice detachable cable in order to customize the operating frequencies of functions of the transducer assembly.

9. Claims 10, 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (USPN 6029116) in view of Breimesser et al. (USPN 5622177).

Wright et al. teaches of a beam forming (figure 2a, A-400) ultrasound apparatus which comprises sub-apertures (Figures 10-13), phase shifts (column 20, lines 12-14), multiplexing/combining signals (Figure 2a, R-108), demultiplexer (Figure 2a, T-106), DAC (Figure 2c, T-121), signal mixing/apodization (column 4, line 44). Wright et al. does not teach of a reducing the output connection lines.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to I Kenneth Kholdebarin whose telephone number is 571-270-1347. The examiner can normally be reached on M-F 8 AM- 4 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IKK

/Iman Kenneth Kholdebarin/

09/28/2007


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